

SCIENCE

And Technology Program



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FY 1999 - FY 2001

As a result of the Reclamation sponsored Hydrology Workshop, held in June 1997 at Utah State University, Logan, Utah, it was determined that, to meet critical needs of using risk-based procedures to evaluate and provide design criteria for hydraulic safety of Reclamation's water control structures, it would be necessary to update and extend currently available rainfall-frequency information for the United States. For this project, the study will address a region labeled "Upper Midwest" and will include the states of Colorado, Iowa, Kansas, Minnesota, Missouri, Montana, Nebraska, North Dakota, Wisconsin, and Wyoming.

The primary purpose of this study would be to determine annual and seasonal rainfall frequencies from 5 minutes to at least 60 days, from 5 to 6 times per year to 1 million years. The secondary purpose would be to describe associated storm spatial characteristics and storm durational relations.

During the initial year (FY 1999), work has concentrated on the assembly of daily and hourly data sets covering the main study region. Computer programs were transferred from the National Weather Service (NWS) to Reclamation in order to merge data sets and perform quality control of the assembled data. Due to the late start in getting work accomplished in FY 1999, it is expected that most of the time spent in FY 2000 will be directed towards work addressing the completed assembly of all required precipitation data sets.

This project is a collaborative effort among Federal, state, and other public water management agencies. Main participants are representatives from Reclamation, the National Weather Service, the Corps of Engineers, individual State Departments of Transportation, individual State Engineer Offices, and individual State Water Districts.

The completed study will be published in the National Weather Service's NOAA Atlas Series as NOAA ATLAS 14. Ancillary information will be published either in Reclamation's report series or subreport series of the National Weather Service.